

March 28, 2017

Dave Blye
Environmental Standards, Inc.
1140 Valley Forge Road
PO Box 810
Valley Forge, PA 19482

RE: Project: Hudson River Remedial Action M
Pace Project No.: 10382546

Dear Dave Blye:

Enclosed are the analytical results for sample(s) received by the laboratory on March 22, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Carol Davy
carol.davy@pacelabs.com
1(612)607-6436
Project Manager

Enclosures

cc: Meg Michell, Environmental Standards, Inc.



REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
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CERTIFICATIONS

Project: Hudson River Remedial Action M

Pace Project No.: 10382546

Minnesota Certification IDs

1700 Elm Street SE, Suite 200, Minneapolis, MN 55414

A2LA Certification #: 2926.01

Alabama Certification #: 40770

Alaska Contaminated Sites Certification #: UST-078

Alaska DW Certification #: MN00064

Arizona Certification #: AZ0014

Arkansas Certification #: 88-0680

California Certification #: MN00064

CNMI Saipan Certification #: MP0003

Colorado Certification #: MN00064

Connecticut Certification #: PH-0256

EPA Region 8 Certification #: 8TMS-L

Florida Certification #: E87605

Georgia Certification #: 959

Guam EPA Certification #: MN00064

Hawaii Certification #: MN00064

Idaho Certification #: MN00064

Illinois Certification #: 200011

Indiana Certification #: C-MN-01

Iowa Certification #: 368

Kansas Certification #: E-10167

Kentucky DW Certification #: 90062

Kentucky WW Certification #: 90062

Louisiana DEQ Certification #: 03086

Louisiana DW Certification #: MN00064

Maine Certification #: MN00064

Maryland Certification #: 322

Michigan Certification #: 9909

Minnesota Certification #: 027-053-137

Mississippi Certification #: MN00064

Montana Certification #: CERT0092

Nebraska Certification #: NE-OS-18-06

Nevada Certification #: MN00064

New Hampshire Certification #: 2081

New Jersey Certification #: MN002

New York Certification #: 11647

North Carolina DW Certification #: 27700

North Carolina WW Certification #: 530

North Dakota Certification #: R-036

Ohio DW Certification #: 41244

Ohio VAP Certification #: CL101

Oklahoma Certification #: 9507

Oregon NwTPH Certification #: MN300001

Oregon Secondary Certification #: MN200001

Pennsylvania Certification #: 68-00563

Puerto Rico Certification #: MN00064

South Carolina Certification #: 74003001

Tennessee Certification #: TN02818

Texas Certification #: T104704192

Utah Certification #: MN00064

Virginia Certification #: 460163

Washington Certification #: C486

West Virginia DW Certification #: 9952 C

West Virginia WW Certification #: 382

Wisconsin Certification #: 999407970

Wyoming via EPA Region 8 Certification #: 8TMS-L

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SAMPLE SUMMARY

Project: Hudson River Remedial Action M

Pace Project No.: 10382546

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10382546001	OWS-WAFO-T170321113834	Water	03/21/17 09:20	03/22/17 10:00

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SAMPLE ANALYTE COUNT

Project: Hudson River Remedial Action M

Pace Project No.: 10382546

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10382546001	OWS-WAFO-T170321113834	SM 2540D	NAS	1	PASI-M

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PROJECT NARRATIVE

Project: Hudson River Remedial Action M

Pace Project No.: 10382546

Method: SM 2540D

Description: 2540D TSS, Low Level

Client: Anchor QEA, LLC

Date: March 28, 2017

General Information:

1 sample was analyzed for SM 2540D. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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ANALYTICAL RESULTS

Project: Hudson River Remedial Action M

Pace Project No.: 10382546

Sample: OWS-WAFO-
T170321113834 **Lab ID:** 10382546001 Collected: 03/21/17 09:20 Received: 03/22/17 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
2540D TSS, Low Level									
Analytical Method: SM 2540D									
Total Suspended Solids	3.5	mg/L	1.0	0.50	1		03/27/17 10:45		

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QUALITY CONTROL DATA

Project: Hudson River Remedial Action M

Pace Project No.: 10382546

QC Batch: 465695

Analysis Method: SM 2540D

QC Batch Method: SM 2540D

Analysis Description: 2540D TSS, Low Level

Associated Lab Samples: 10382546001

METHOD BLANK: 2545611

Matrix: Water

Associated Lab Samples: 10382546001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Suspended Solids	mg/L	<1.0	1.0	0.50	03/27/17 10:45	

LABORATORY CONTROL SAMPLE & LCSD: 2545612

2545613

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	100	86.6	88.4	87	88	80-120	2	10	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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Date: 03/28/2017 04:11 PM

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QUALIFIERS

Project: Hudson River Remedial Action M
Pace Project No.: 10382546

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-M Pace Analytical Services - Minneapolis

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Hudson River Remedial Action M

Pace Project No.: 10382546

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10382546001	OWS-WAFO-T170321113834	SM 2540D	465695		

REPORT OF LABORATORY ANALYSIS

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305 West Grand Avenue, Newark, NJ 07102 Tel: 201-994-1000

Client: General Electric Company

ENVIRONMENTAL SAMPLE CHAIN OF CUSTODY

COC ID: COC170321114417PAC

Sample Custodian: KMB

Lab: PACE

Project: Hudson River Remedial Action Monitoring Program - Resuspension Monitoring

10382546

COC Sample Number	Field Sample ID	QA/QC	Matrix **	Date Collected	Time Collected	Media*	# Containers	TEST REQUESTED	METHOD	MS	MSD	LD	Turn Around Time (hrs)	Preservative
001	OWS-WAFO-T170321113834	ENV	W	03/21/2017	08:24	W	4							

Total Suspended Solids	SM 2540D	N	N	Y	480	4degC
CS PCBs	NE294_02	N	N	N	480	4degC


201

Comments: Only TSS bottle sent 3/21/17 → PCB kept at Schenectady Service Center

Relinquished by:	Received by:	Relinquished by:	Received by:
Signature: [Signature] Print Name: [Name] Company: [Company] Date/Time: 3-21-17 11:45	Signature: [Signature] Print Name: [Name] Company: [Company] Date/Time: 3-21-17 13:30	Signature: [Signature] Print Name: [Name] Company: [Company] Date/Time: 3-21-17 14:30	Signature: [Signature] Print Name: [Name] Company: [Company] Date/Time: 3/21/17 16:00

Date Printed: 3/21/2017 * S = SEDIMENT, W = WATER, PW = PORE WATER ** W = Total/Whole, D = Dissolved, R = Residue, S = Sediment

Page 1 of 1
T = 0.8
Intact Yes
Free Yes
Seal Yes

	Document Name: Sample Condition Upon Receipt Form	Document Revised: 19Dec2016 Page 1 of 2
	Document No.: F-MN-L-213-rev.20	Issuing Authority: Pace Minnesota Quality Office

**Sample Condition
Upon Receipt**

Client Name:

Project #:

WO# : 10382546

Courier: ☒ Fed Ex ☐ UPS ☐ USPS ☐ Client

☐ Commercial ☐ Pace ☐ Speedee ☐ Other: _____

Tracking Number: **7145 4771 7300**



10382546

Custody Seal on Cooler/Box Present? ☒ Yes ☐ No

Seals Intact? ☒ Yes ☐ No

Optional: Proj. Due Date: Proj. Name:

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☐ None ☒ Other: **PB**

Temp Blank? ☒ Yes ☐ No

Thermometer Used: ☒ 151401163
☐ 151401164

Type of Ice: ☒ Wet ☐ Blue ☐ None ☐ Samples on ice, cooling process has begun

Cooler Temp Read (°C): **0.7** Cooler Temp Corrected (°C): **0.8**

Biological Tissue Frozen? ☐ Yes ☐ No ☒ N/A

Temp should be above freezing to 6°C

Correction Factor: **40.1**

Date and Initials of Person Examining Contents: **RG3/22/17**

USDA Regulated Soil (☒ N/A, water sample)

Did samples originate in a quarantine zone within the United States: AL, AR, CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX or VA (check maps)? ☐ Yes ☐ No

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐ Yes ☐ No

If Yes to either question, fill out a Regulated Soil Checklist (F-MN-Q-338) and include with SCUR/COC paperwork.

		COMMENTS:
Chain of Custody Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	1.
Chain of Custody Filled Out?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	2.
Chain of Custody Relinquished?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	3.
Sampler Name and/or Signature on COC?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	4.
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	5.
Short Hold Time Analysis (<72 hr)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	6.
Rush Turn Around Time Requested?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	7.
Sufficient Volume?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	8.
Correct Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	9.
-Pace Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Containers Intact?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	10.
Filtered Volume Received for Dissolved Tests?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11. Note if sediment is visible in the dissolved container
Sample Labels Match COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	12.
-Includes Date/Time/ID/Analysis Matrix: WT		
All containers needing acid/base preservation have been checked?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13. <input type="checkbox"/> HNO ₃ <input type="checkbox"/> H ₂ SO ₄ <input type="checkbox"/> NaOH Positive for Res. Chlorine? Y N
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO ₃ , H ₂ SO ₄ , <2pH, NaOH >9 Sulfide, NaOH >12 Cyanide)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	Sample #
Exceptions: VOA, Coliform, TOC/DOC Oil and Grease, DRO/8015 (water) and Dioxin.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	Initial when completed: Lot # of added preservative:
Headspace in VOA Vials (>6mm)?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14.
Trip Blank Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	15.
Trip Blank Custody Seals Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased):		

CLIENT NOTIFICATION/RESOLUTION

Field Data Required? ☐ Yes ☐ No

Person Contacted: _____

Date/Time: _____

Comments/Resolution: _____

Project Manager Review: **Carol Tang**

Date: **3/22/17**

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers).



Analytical Data Package

Prepared by:

Pace Analytical Services

Pace Project No.: 10382546

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InOrganic

Gravimetric

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FORM I INORGANIC-1
INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

OWS-WAFO-
T170321113834

Lab Name: Pace Analytical - Minnesota SDG No. : 10382546 Contract: Hudson River Remedial Action
Lab Sample ID: 10382546001 Percent Moisture: _____

CAS No.	Analyte	Concentration	Q	Units	DF	Analysis Date/Time
	Total Suspended Solids	3.5		mg/L	1	03/27/2017 10:45

FORM III INORGANIC-1
BLANKS

Lab Name: Pace Analytical - Minnesota SDG No. : 10382546 Contract : Hudson River Remedial Action M

Method Blank Matrix: Water Instrument ID: 10WET4

Method Blank Concentration Units: mg/L

Analyte	Initial Calibration Blank		Continuing Calibration Blank								Method Blank	
		C		C		C		C		C	2545611	C
Total Suspended Solids											<1.0	U

FORM VI INORGANIC-1
DUPLICATES

SAMPLE NO.

2545613LCSD

Lab Name: Pace Analytical - Minnesota SDG No. : 10382546 Contract: Hudson River Remedial Action

Matrix: Water Concentration Units: mg/L

Percent Moisture: Basis: Wet

Analyte	Control Limit	Sample	Duplicate	RPD
Total Suspended Solids	10	86.6	88.4	2

FORM VII INORGANIC-1
LABORATORY CONTROL SAMPLE

SAMPLE NO.

2545612LCS

Lab Name: Pace Analytical - Minnesota SDG No. : 10382546 Contract: Hudson River Remedial Action

Matrix: Water

Analyte	Units	True	Found	%R	Limits	
Total Suspended Solids	mg/L	100	86.6	87	80	120

FORM VII INORGANIC-2
LABORATORY CONTROL SAMPLE

SAMPLE NO.

2545613LCSD

Lab Name: Pace Analytical - Minnesota SDG No. : 10382546 Contract: Hudson River Remedial Action

Matrix: Water

Analyte	Units	True	Found	%R	Limits	
Total Suspended Solids	mg/L	100	88.4	88	80	120

FORM IX INORGANIC-1
METHOD DETECTION LIMITS

Lab Name: Pace Analytical - Minnesota SDG No. : 10382546 Contract: Hudson River Remedial Action M

Preparation Method: SM 2540D Instrument ID: 10WET4

Concentration Units: mg/L

Analyte	PQL	MDL	MDL Date
Total Suspended Solids	2.0	1.0	04/01/2015

FORM XII INORGANIC-1
PREPARATION LOG

Lab Name: Pace Analytical - Minnesota SDG No. : 10382546 Contract: Hudson River Remedial Action M

Preparation Method: SM 2540D Batch: WET 52716

Lab Sample ID	Sample Name	Preparation Date	Initial Volume (mL)	Final Volume (mL)
2545611	2545611	03/27/2017	1000	500
2545612	2545612	03/27/2017	1000	500
2545613	2545613	03/27/2017	1000	500
10382546001	OWS-WAFO-	03/27/2017	1000	500

FORM XIII INORGANIC-1
ANALYSIS RUN LOG

Lab Name: Pace Analytical - Minnesota SDG No. : 10382546 Contract: Hudson River Remedial Action M

Instrument ID: 10WET4

Analysis Method: SM 2540D

Start Date: 03/27/2017 10:45

End Date: 03/27/2017 10:45

Sample Name	Lab Sample ID	D/F	Date	Time	tss w
2545611BLANK	2545611	1	03/27/2017	10:45	X
2545612LCS	2545612	1	03/27/2017	10:45	X
2545613LCSD	2545613	1	03/27/2017	10:45	X
OWS-WAFO-	10382546001	1	03/27/2017	10:45	X

Batch Information: WET 52716 TSS LL

Template Version: F-MN-I-326-Rev.03 (24Jan2017)

Analysis Method	SM 2540D	Analized By	NAS	Instrument	10WET4	Acceptance Range:	103-105 C
Oven ID	10WET77	Thermometer ID	2113652	Oven Temp Correction Factor	-.1	Oven Temp In1 Corr Date/Time Init	104.0 103.0 03/27/2017 10:45 NAS
Oven Temp Out1 Corr Date/Time Init	104.0 103.0 03/27/2017 11:54 NAS	Desic. In 1 ID Date/Time Init	6 03/27/2017 11:54 NAS	Desic. Out 1 Date/Time Init	03/27/2017 14:35 NAS	Oven Temp In2 Corr Date/Time Init	104.0 103.0 03/27/2017 14:42 NAS
Oven Temp Out2 Corr Date/Time Init	104.0 103.0 03/27/2017 15:44 NAS	Desic. In 2 ID Date/Time Init	6 03/27/2017 15:44 NAS	Desic. Out 2 Date/Time Init	03/28/2017 08:20 NAS	Oven Temp In3 Corr Date/Time Init	104.0 103.0 03/28/2017 08:25 NAS
Oven Temp Out3 Corr Date/Time Init	104.0 103.0 03/28/2017 10:51 NAS	Desic. In 3 ID Date/Time Init	6 03/28/2017 10:51 NAS	Desic. Out 3 Date/Time Init	03/28/2017 14:05 NAS	Reviewed By	KEO
Reviewed By Date	03/28/2017 15:44	Batch Notes					

Sample Information:

QC Rule	Sample Type	Lab Sample ID	Select	ID	TSS Final (mg/L)	TSS Posted (mg/L)	Run Date/Time	Initial Volume (mL)	TSS Filters ()	Filter Wt 1 (g)	Filter Use 1	Oven Wt 1 (g)	Oven Use 1	Oven Wt 2 (g)
2540D WLL	BLANK	2545611	Y	FWCMF	0.0000	0.0000	03/27/2017 10:45	1000	112706 ()	0.1171	M	0.1171	N	0.1171
2540D WLL	LCS	2545612	Y	FWCMG	86.600	173.20	03/27/2017 10:45	1000	112706 ()	0.1181	M	0.2056	N	0.2048
2540D WLL	LCSD	2545613	Y	FWCMH	88.400	176.80	03/27/2017 10:45	1000	112706 ()	0.1168	M	0.2081	N	0.2055
2540D WLL	PS	10382546001	Y	FWCMI	3.5000	7.0000	03/27/2017 10:45	1000	112706 ()	0.1240	M	0.1275	N	0.1275

QC Rule	Sample Type	Lab Sample ID	Oven Use 2	Oven %Diff 1&2	Oven Wt Diff 1&2	Oven Wt 3 (g)	Oven Use 3	Oven %Diff 2&3	Oven Wt Diff 2&3	Sample Notes	TS/TDS-SPK (mL)
2540D WLL	BLANK	2545611	Y	NaN	0.0000		N				
2540D WLL	LCS	2545612	N	0.91848	0.0008	0.2047	Y	0.11541	0.0001		113626 (50)
2540D WLL	LCSD	2545613	N	2.8889	0.0026	0.2052	Y	0.33879	0.0003		113626 (50)
2540D WLL	PS	10382546001	Y	0.0000	0.0000		N				

Standard Notes:

13626: TS/TSS/TDS Handmade Standard, Used